

Course Requirements and Registration Priorities Spring 2019

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SEng											
Chemical Engineering											
1	ECHE 210	Foundations of Unit Operations	3	6				Registration by School Office			
2	ECHE 221	Engineering Fluid Mechanics	3	6				Registration by School Office			
3	ECHE 270	Transport Phenomena-I	3	6				Registration by School Office			
4	ECHE 323	Computational methods in Chemical Engineering-I	3	6	ECHE 333 Separation Processes-I (D and above)	ECHE 481 Chemical Reaction Engineering (D and above)		Registration by School Office			
5	ECHE 383	Separation Processes II	3	6	ECHE 126 Introduction to Chemical Engineering (D and above) AND ECHE 225 Heat and Mass Transfer Operations (D and above)			Registration by School Office			
6	ECHE 386	Chemical Plant Design and Optimization	3	6				Registration by School Office			
7	ECHE 387	Chemical Reaction Engineering 2	3	6				Registration by School Office			
8	ECHE 388	Process Dynamics and Control	3	6				Registration by School Office			
9	ECHE 420	Polymer Processing and Rheology	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
10	ECHE 421	Tissue Engineering	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
11	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (D and above)			Registration by School Office			
12	ECHE 483	Chemistry II	3	6	ECHE 222 Chemistry I (D and above)			Registration by School Office			
13	ECHE 485	Introduction to Biochemical Engineering	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
14	MCHE 600	MSc Thesis in Chemical Engineering	15	30							
Chemical and Materials Engineering											

15	MCHME 600	Research Seminar	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
16	MCHME 606	Advanced Heat and Mass Transfer	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
17	MCHME 704	Advanced Safety, Reliability and Risk Engineering in Process Industries	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

18	MCHME 712	Advanced Tissue Engineering	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Civil Engineering											
19	ECE 210	Soil Mechanics	3	6				Registration by School Office			
20	ECE 218	Environmental Chemistry	3	6				Registration by School Office			
21	ECE 219	Hydraulics	3	6				Registration by School Office			
22	ECE 306	Geotechnical Design	3	6	ECE 210 Soil Mechanics (D and above)			Registration by School Office			
23	ECE 319	Structural Design - Steel	3	6				Registration by School Office			
24	ECE 320	Engineering Hydrology	3	6				Registration by School Office			
25	ECE 420	Modern Information Technology in Construction	3	6				4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
26	ECE 422	Prestressed Concrete Design	3	6				3 year UG SEng Civil Engineering	3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
27	ECE 423	Structure and Properties of Concrete Materials	3	6				3 year UG SEng Civil Engineering	3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
28	ECE 427	Individual Research Projects in Civil Engineering (II)	3	6	ECE 481 Individual Research Projects in Civil Engineering (D and above)			4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
29	ECE 472	Water and Wastewater Treatment Processes	3	6	ECE 218 Environmental Chemistry (D and above)			Registration by School Office			
30	ECE 473	Environmental Systems	3	6				4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
31	ECE 478	Capstone Project II	9	18	ECE 401 Capstone Project 1 (D and above)			Registration by School Office			
32	ECE 479	Structural Analysis II	3	6	ECE 217 Structural Analysis I (D and above)			Registration by School Office			

33	EMEM 510	Managerial Accounting	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
34	EMEM 511	Business Strategy	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
35	EMEM 512	Leading Change	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

36	EMEM 513	Entrepreneurship	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
37	EMEM 514	Finance	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
38	EMEM 516	Management of Organizations	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

39	EMEM 517	Marketing	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
40	EMEM 527	Globalization and Engineering	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
41	EMEM 529	Capstone Project	8	16				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

42	EMEM 535	Managing Product and Service Development	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
43	EMEM 543	Quality and Lean Management	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
44	EMEM 545	Business Communication	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

45	MCEE 600	Research Seminar	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
46	MCEE 606	Advanced Project Management	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
47	MCEE 700	Structural Dynamics and Earthquake Engineering	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

48	MCEE 701	Advanced Concrete Technology	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
49	MCEE 703	Theory of Physico-Chemical Treatment Processes	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
50	MCEE 704	Contaminated Site Management and Soil Treatment Technologies	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

51	MSC 600	Research methods and ethics	3	6				1 year Gr SEng Chemical and Materials Engineering, 1 year Gr SEng Civil and Environmental Engineering, 1 year Gr SEng Electrical and Computer Engineering, 1 year Gr SEng Mechanical and Aerospace Engineering	Science, Engineering and Technology		
Electrical and Computer Engineering											
52	MECE 600	Research Seminar	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
53	MECE 700	Industrial and Commercial Power System	3	6	EEE 379 Power Systems Analysis (D and above) OR EEE 346 Power Systems (D and above) AND EEE 381 Electrical Machines and Drives (D and above)			1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

54	MECE 703	Advanced Photonics	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
55	MECE 705	Advanced Mixed Signal Circuit Design	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
56	MECE 717	Pattern Recognition and Machine Learning	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

57	MECE 718	Deep Learning for Internet of Things	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
58	MECE 724	Modeling and Simulation	3	6	MECE 605 Statistics and Probability for Electrical and Computer Engineers (B and above)			1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Electrical and Electronic Engineering											
59	EEE 210	Software Engineering	3	6	BENG 146 Programming for Engineers (D and above)			Registration by School Office			
60	EEE 211	Computer Systems Architecture	3	6	ECHE 126 Introduction to Chemical Engineering (D and above)			Registration by School Office			
61	EEE 239	Communication systems	3	6				Registration by School Office			
62	EEE 340	Data Communications	3	6				Registration by School Office			
63	EEE 341	Digital Electronic System Design	3	6				Registration by School Office			
64	EEE 343	Embedded Microcontrollers	3	6				Registration by School Office			
65	EEE 379	Power Systems Analysis	3	6				Registration by School Office			
66	EEE 381	Electrical Machines and Drives	3	6				Registration by School Office			

67	EEE 411	Special Topics in Signal Processing	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
68	EEE 480	Capstone Project II	9	18				Registration by School Office			
69	EEE 484	Electric Power Generation	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
70	EEE 485	Power System Operation and Control	3	6	EEE 379 Power Systems Analysis (D and above) OR EEE 452 Power Systems Protection (D and above)			4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
71	EEE 486	Photonics for Engineering	3	6	EEE 342 Electromagnetics (D and above)			4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
72	EEE 489	Analog Circuit Design	3	6				Registration by School Office			
73	EEE 494	Modern Characterizations for Semiconductor Industry	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
74	EEE 495	Fundamentals of Biomedical Engineering and Biophysics	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
Mechanical Engineering											
75	EME 275	Fluid Mechanics I	3	6				Registration by School Office			
76	EME 300	Research Project	3	6				Registration by School Office			
77	EME 352	Computational Fluid Dynamics	3	6				Registration by School Office			
78	EME 357	Fluid Mechanics 2	3	6				Registration by School Office			
79	EME 377	Mechanical Systems Design	3	6	EME 361 Machine Design (D and above)			Registration by School Office			
80	EME 414	Fire Engineering	3	6	BENG 226 Engineering Thermodynamics (D and above)			4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
81	EME 415	Flight Mechanics	3	6				4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
82	EME 464	Materials and Manufacturing 1	3	6				Registration by School Office			

83	EME 476	Materials and Manufacturing II	3	6				Registration by School Office			
84	EME 477	Capstone Project II	9	18				Registration by School Office			
85	EME 480	Industrial Automation	3	6				Registration by School Office			
86	EME 489	Advanced Engineering Mathematics	3	6	BENG 228 Engineering Mathematics III (D and above)			4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
87	MME 600	MSc Thesis in Mechanical Engineering	15	30							
Mechanical and Aerospace Engineering											
88	ENG 102	Engineering Materials I	3	6				1 year UG SEng Civil and Environmental Engineering, 1 year UG SEng Mechanical and Aerospace Engineering, 1 year UG SMG	1 year UG SHSS, 1 year UG SST, 2 year UG SENG, 3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
89	ENG 103	Engineering Materials 2	3	6				1 year UG SEng Chemical and Materials Engineering, 1 year UG SEng Electrical and Computer Engineering, 1 year UG SMG	1 year UG SHSS, 1 year UG SST, 2 year UG SENG, 3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
90	MMAE 600	Research Seminar	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

91	MMAE 604	Advanced Computational Fluid Dynamics (CFD) and Heat Transfer in Mechanical Engineering	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
92	MMAE 700	Advanced Statistics and Probability	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
93	MMAE 701	Numerical Techniques for Engineers	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
School of Engineering											
94	BENG 114	Introduction to Electrical Systems	3	6				Registration by School Office			
95	BENG 219	Control Systems	3	6				Registration by School Office			

96	BENG 226	Engineering Thermodynamics	3	6				Registration by School Office			
97	BENG 343	Interdisciplinary Design Project	3	6							
98	DENG 784	Doctoral Proposal I	0	6				Science, Engineering and Technology			
99	DENG 785	PhD proposal oral defence	0	0				Science, Engineering and Technology			
100	DENG 787	Doctoral Proposal II	3	6	DENG 784 Doctoral Proposal I (C- and above)	DENG 785 PhD proposal oral defence (D and above)		Science, Engineering and Technology			
101	DENG 789	Doctoral Seminar I	3	6	DENG 785 PhD proposal oral defence (C- and above)			Science, Engineering and Technology			
102	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (C- and above)			Science, Engineering and Technology			
103	DENG 794	Dissertation Research	12	24	DENG 785 PhD proposal oral defence (C- and above)			Science, Engineering and Technology			
104	DENG 795	Research at Host University	6	12	DENG 785 PhD proposal oral defence (C- and above)			Science, Engineering and Technology			
105	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
106	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD proposal oral defence (C- and above) AND DENG 789 Doctoral Seminar I (C- and above) AND DENG 790 Doctoral Seminar II (C- and above)			Science, Engineering and Technology			
SST											
Biological Science											
107	BIOL 101	Biology for non-Science majors	3	6				SHSS			
108	BIOL 120	Modern Biology II with Lab	4	8	BIOL 110 Modern Biology I with Lab (C- and above)	BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II Lab (C- and above)		Biological Sciences, Chemistry	SST	SHSS	
109	BIOL 231	Human Anatomy and Physiology II	4	8	BIOL 230 Human Anatomy and Physiology I (C- and above)			Biological Sciences	SST	SEng, SHSS, SMG	

110	BIOL 301	Molecular Biology of Cell with Lab	4	8	(BIOL 110 Modern Biology I with Lab (C- and above) OR PREM 110 Pre-med Biology I with lab (C- and above) OR BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I Lab (C- and above)) AND (BIOL 120 Modern Biology II with Lab (C- and above) OR BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II Lab (C- and above))			Biological Sciences	SST	SEng, SHSS, SMG
111	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (C- and above) OR CHEM 291 Organic Chemistry for Biologists I (C- and above)			Biological Sciences	SST	SEng, SHSS, SMG
112	BIOL 341L	Biochemistry I Lab	1	2		BIOL 341 Biochemistry I (C and above)		Biological Sciences	SST	SEng, SHSS, SMG
113	BIOL 370	Genetics	3	6	(BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I with Lab (C- and above) OR PREM 110 Pre-med Biology I with lab (C- and above)) AND (BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II with Lab (C- and above)) AND (BIOL 220 Molecular Biology of Cell (C- and above) OR BIOL 301 Molecular Biology of Cell with Lab (C- and above))			Biological Sciences	SST	SEng, SHSS, SMG
114	BIOL 420	Bioethics	3	6	(BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I Lab (C- and above) OR BIOL 110 Modern Biology I with Lab (C- and above)) AND (BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II Lab (C- and above) OR BIOL 120 Modern Biology II with Lab (C- and above))			3 year UG SST Biological Sciences, 3 year UG SST Chemistry, 4 year UG SST Biological Sciences, 4 year UG SST Chemistry		

115	BIOL 430	Histology with laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (C- and above) AND BIOL 231 Human Anatomy and Physiology II (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG
116	BIOL 440	Neuroscience	3	6	BIOL 231 Human Anatomy and Physiology II (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG
117	BIOL 450	Food Microbiology	3	6	BIOL 305 Introduction to Microbiology with Lab (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG
118	BIOL 450L	Food Microbiology Lab	1	2	BIOL 305 Introduction to Microbiology with Lab (C- and above)	BIOL 450 Food Microbiology (C- and above)	Biological Sciences	SST	SEng, SHSS, SMG
119	BIOL 456	Biology Research Design	3	6	BIOL 355 Critical Research Reasoning (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG
120	BIOL 471	Light and Electron microscopy concepts and techniques	3	6	BIOL 110 Modern Biology I with Lab (C and above) AND BIOL 120 Modern Biology II with Lab (C and above) AND CHEM 101 General Chemistry I (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (C and above)		Biological Sciences	SST	SEng, SHSS, SMG
121	BIOL 471L	Light and Electron Microscopy Concepts and Techniques-Lab	1	2		BIOL 471 Light and Electron microscopy concepts and techniques (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
122	BIOL 480	Molecular Immunology	3	6	BIOL 341 Biochemistry I (C- and above) AND BIOL 410 Introduction to Immunology (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG
123	BIOL 491	Graduation Project 2	4	8	BIOL 490 Graduation Project 1 (C- and above)		Through Add Course form only		
124	BIOL 492	Directed study in Biology	3	6			Biological Sciences	SST	SEng, SHSS, SMG
125	BIOL 570	Advanced Biotechnology	3	6			Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM
126	BIOL 580	Applied Bioinformatics	3	6	BIOL 520 Statistical Methods in Life Sciences (C+ and above)		Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM

127	BIOL 591	Cellular Biophysics	3	6				Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
128	BIOL 600	Graduate Seminar Series	3	6				Biological Sciences			
129	BIOL 699	Research Thesis II	6	12				Instructor's permission required. Registration by Add Course form only			
Chemistry											
130	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS			
131	CHEM 092	Survey of Environmental Sciences for Non-Science Majors	3	6				SHSS			
132	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry	SST	SHSS	
133	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (C and above)			Biological Sciences, Chemistry, SMG	SST	SHSS	
134	CHEM 102L	General Chemistry II lab	1	2	CHEM 101L General Chemistry I lab (C and above)	CHEM 102 General Chemistry II (C and above)		Biological Sciences, Chemistry, SMG	SST	SHSS	
135	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (C and above)			Chemistry	Biological Sciences	SST	
136	CHEM 211L	Organic Chemistry I Lab	2	4	CHEM 102L General Chemistry II lab (C and above)	CHEM 211 Organic Chemistry I (C and above)		Chemistry	Biological Sciences	SST	
137	CHEM 212	Organic Chemistry II	3	6	CHEM 211 Organic Chemistry I (C and above) OR CHEM 191 Chemistry I for Engineers (C and above)			Chemistry	Biological Sciences	SST	
138	CHEM 212L	Organic Chemistry II Lab	2	4	CHEM 211L Organic Chemistry I Lab (C and above)	CHEM 212 Organic Chemistry II (C and above) OR CHEM 292 Organic Chemistry for Biologists II (C and above)		Chemistry	Biological Sciences	SST	
139	CHEM 320	Instrumental Analysis with Labs	4	8	CHEM 220 Quantitative Chemical Analysis with lab (C and above)			Chemistry	Biological Sciences	SST	

140	CHEM 332	Physical Chemistry II	3	6	CHEM 331 Physical Chemistry I (C and above) AND MATH 274 Introduction to Differential Equations (C- and above)			Chemistry	Biological Sciences	SST	
141	CHEM 332L	Physical Chemistry II Lab	1	2	CHEM 331L Physical Chemistry Lab (C and above)	CHEM 332 Physical Chemistry II (C and above)		Chemistry	Biological Sciences	SST	
142	CHEM 380	Research Methods	3	6				Chemistry	Biological Sciences	SST	
143	CHEM 411	Advanced Organic Chemistry I	3	6	CHEM 212 Organic Chemistry II (C and above) AND MATH 161 Calculus I (C and above)			Chemistry			
144	CHEM 442	Biochemistry II with Lab-Metabolic Biochemistry	3	6	CHEM 341 Biochemistry I (C and above) AND CHEM 212 Organic Chemistry II (C and above)			Chemistry	Biological Sciences	SST	
145	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 450 Advanced Inorganic Chemistry (C and above)			Chemistry	Biological Sciences	SST	
146	CHEM 490	Nanochemistry	3	6	CHEM 331 Physical Chemistry I (C and above) AND CHEM 350 Descriptive Inorganic Chemistry (C and above)			Chemistry			
Computer Science											
147	CSCI 101	Introduction to Computational Sciences	3	6				1 year UG SHSS	SHSS		
148	CSCI 111	Web Programming & Problem Solving	3	6			CSCI 100 Computation and Problem Solving (C- and above)	1 year UG SHSS	SHSS		
149	CSCI 151	Programming for Scientists and Engineers	4	8			ROBT 102 Programming for robotics and physics (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above)	1 year UG SST, SMG	SST	SHSS	

150	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above) OR CSCI 261 Object Oriented Programming with Java I (C- and above) OR ROBT 102 Programming for robotics and physics (C- and above)			1 year UG SST	SST	SHSS	
151	CSCI 245	System Analysis and Design	3	6	CSCI 341 Database Systems (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
152	CSCI 270	Algorithms	3	6	CSCI 152 Performance and Data Structures (C- and above) AND MATH 251 Discrete Mathematics (C- and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	
153	CSCI 272	Formal Languages	3	6	CSCI 152 Performance and Data Structures (C and above) AND MATH 251 Discrete Mathematics (C- and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	
154	CSCI 307	Research Methods	3	6				Computer Science			
155	CSCI 325	Introduction to Parallel Systems and GPU Programming	3	6	CSCI 332 Operating Systems (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
156	CSCI 330	Mobile Computing	3	6	CSCI 332 Operating Systems (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
157	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (C- and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	
158	CSCI 399A	Internship II - A	1	2							
159	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (C- and above)			4 year UG SST Computer Science			
160	CSCI 447	Machine Learning: Theory and Practice	3	6	MATH 273 Linear Algebra with Applications (C and above) AND MATH 321 Probability (C and above)			Computer Science	SST	SEng, SHSS, SMG	
161	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
162	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (C- and above)			Computer Science, Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
163	CSCI 515	Modeling and Simulation for Computer Science	3	6				Computer Science, Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	

164	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (C- and above)			Computer Science	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM
Mathematics										
165	MATH 161	Calculus I	4	8				Biological Sciences, Chemistry	1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST	SEng, SHSS, SMG, SST
166	MATH 162	Calculus II	4	8	MATH 161 Calculus I (C and above)			1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS
167	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (C and above)			Computer Science, Mathematics	SST	SHSS
168	MATH 263	Calculus III	4	8	MATH 162 Calculus II (C and above)			Mathematics	SST	SHSS
169	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (C and above)	MATH 162 Calculus II (C and above)		Mathematics	SST	SHSS
170	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (C and above) AND MATH 273 Linear Algebra with Applications (C and above)			Mathematics	SST	SHSS
171	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (C- and above)		SOC 203 Quantitative Methods in Sociology (C- and above) OR PLS 211 Quantitative Methods (C- and above)	Biological Sciences	SST	SHSS
172	MATH 321	Probability	3	6	MATH 162 Calculus II (C and above)		ECON 211 Economic Statistics (C- and above) OR PLS 211 Quantitative Methods (C- and above)	Computer Science, Mathematics	SST	SHSS
173	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (C- and above)			3 year UG SST Mathematics	SST	SHSS
174	MATH 351	Numerical Methods with Applications	3	6	MATH 274 Introduction to Differential Equations (C- and above) AND MATH 263 Calculus III (C- and above)			Mathematics	SST	SHSS
175	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (C- and above)			Mathematics	SST	SHSS

176	MATH 371	Introduction to Mathematical Biology	3	6	MATH 273 Linear Algebra with Applications (C and above) AND MATH 274 Introduction to Differential Equations (C and above)			3 year UG SST Mathematics	Mathematics	SST	
177	MATH 402	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (C- and above)			3 year UG SST Mathematics	SST	SHSS	
178	MATH 407	Graph Theory	3	6	MATH 301 Introduction to Number Theory (C- and above) OR (MATH 251 Discrete Mathematics (C- and above) AND MATH 273 Linear Algebra with Applications (C- and above))			Mathematics	SST	SHSS	
179	MATH 412	Nonlinear Optimization	3	6	MATH 273 Linear Algebra with Applications (C- and above) AND (MATH 263 Calculus III (C- and above) OR MATH 169 Accelerated Calculus (C- and above))			Mathematics	SST	SHSS	
180	MATH 417	Cryptography	3	6	MATH 273 Linear Algebra with Applications (C- and above) AND (MATH 251 Discrete Mathematics (C- and above) OR MATH 301 Introduction to Number Theory (C- and above) OR MATH 355 Introduction to Proofs (C- and above))			Mathematics	SST	SHSS	
181	MATH 423	Actuarial Mathematics II	3	6	MATH 321 Probability (C- and above)			Mathematics	SST	SHSS	
182	MATH 449	Statistical Programming	3	6	MATH 322 Mathematical Statistics (C- and above)			4 year UG SST Mathematics	Mathematics		
183	MATH 477	Applied Finite Element Methods	3	6	MATH 351 Numerical Methods with Applications (C and above)			Mathematics	SST	SHSS	
184	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (C- and above)			Mathematics	SST	SHSS	
185	MATH 482	Fourier Analysis	3	6	MATH 263 Calculus III (C- and above) AND MATH 274 Introduction to Differential Equations (C- and above)			Mathematics	SST	SHSS	
186	MATH 490	Special Topics in Mathematics	3	6				Mathematics	SST	SHSS	
187	MATH 499	Capstone Project	3	6				Through Add Course form only			

188	MATH 512	Optimization Methods and Techniques	3	6	MATH 517 Scientific Modeling and Simulation with Mathematics (B- and above)			Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
189	MATH 519	Scientific Computing	3	6				Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
190	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning I (B- and above)			Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
191	MATH 551	Advanced Numerical Methods	3	6	MATH 517 Scientific Modeling and Simulation with Mathematics (B- and above)			Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
Physics											
192	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (D and above) OR MATH 162 Calculus II (D and above)	PHYS 171 Physics I for Physics Majors with Laboratory (C- and above)	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS	
193	PHYS 162	Physics II for Scientists and Engineers with Laboratory	4	8	PHYS 161 Physics I for Scientists and Engineers with Laboratory (C- and above) OR PHYS 151 Introductory Physics I with Lab (C- and above)		PHYS 172 Physics II for Physics Majors with Laboratory (C- and above)	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS	
194	PHYS 202	Introductory Astrophysics	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above)) AND (MATH 161 Calculus I (C- and above) OR MATH 169 Accelerated Calculus (C- and above))			SST	SHSS		
195	PHYS 222	Classical Mechanics II	3	6	PHYS 221 Classical Mechanics I (C- and above)			Physics	SST		

196	PHYS 270	Computational Physics with Laboratory	3	6	(CSCI 150 Fundamentals of Programming (C- and above) OR CSCI 151 Programming for Scientists and Engineers (C- and above)) AND MATH 263 Calculus III (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above))	MATH 273 Linear Algebra with Applications (D and above)		Physics	SST		
197	PHYS 280	Thermodynamics and Statistical Physics	3	6	MATH 263 Calculus III (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above))			Physics	SST		
198	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (C- and above)			Physics	SST		
199	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (C- and above)			Physics	SST		
200	PHYS 451	Quantum Mechanics I	3	6	(PHYS 315 Mathematical Methods of Physics (C- and above) OR PHYS 411 Advanced Mathematical Physics (C- and above)) AND PHYS 221 Classical Mechanics I (C- and above) AND PHYS 361 Classical Electrodynamics I (C- and above)			Physics	SST		
201	PHYS 463	Astrophysics and General Relativity	3	6	MATH 162 Calculus II (C- and above) AND PHYS 221 Classical Mechanics I (C- and above) AND MATH 274 Introduction to Differential Equations (C- and above)			Physics	SST		
202	PHYS 473	Introduction to Solid State Physics	3	6	PHYS 280 Thermodynamics and Statistical Physics (C- and above) AND PHYS 451 Quantum Mechanics I (C- and above)			Physics	SST		
203	PHYS 483	Statistical Mechanics	3	6				Physics	SST		
204	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Physics			

205	PHYS 495	Physics Colloquium	0	0				Physics			
206	PHYS 499	Graduation Project	3	6	PHYS 451 Quantum Mechanics I (C- and above)			Physics			
207	PHYS 510	Quantum Mechanics	3	6				Physics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
208	PHYS 520	Statistical Physics	3	6				Physics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
209	SST 502	Teaching Practicum	3	6	SST 501 Teaching and Learning (C- and above)			Registration by SST School Office			
210	SST 504	Innovation & Entrepreneurship	3	6				Registration by SST School Office			
211	SST 592	Research Seminar	3	6				Registration by SST School Office			
212	SST 692	Thesis	15	30				Registration by SST School Office			
Robotics and Mechatronics											
213	ROBT 202	System Dynamics and Modeling	3	6	MATH 162 Calculus II (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above))			Robotics and Mechatronics	SST		
214	ROBT 204	Electrical and Electronic Circuits II with Lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (C- and above)			Physics, Robotics and Mechatronics	SST		
215	ROBT 206	Microcontrollers with Lab	4	8	CSCI 151 Programming for Scientists and Engineers (C- and above) OR ROBT 102 Programming for robotics and physics (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above)			Computer Science, Robotics and Mechatronics	SST		
216	ROBT 302	Mechanical Design II with Machining Laboratory	4	8	ROBT 301 Mechanical Design I with CAD Laboratory (C- and above)			Robotics and Mechatronics	SST		
217	ROBT 304	Electromechanical Systems with lab	4	8	ROBT 204 Electrical and Electronic Circuits II with Lab (C- and above)			Robotics and Mechatronics	SST		
218	ROBT 310	Image Processing	3	6	MATH 162 Calculus II (C- and above) AND MATH 273 Linear Algebra with Applications (C- and above)			Computer Science, Robotics and Mechatronics	SST		

219	ROBT 402	Robotic/Mechatronic System Design	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (C- and above) AND ROBT 206 Microcontrollers with Lab (C- and above) AND ROBT 302 Mechanical Design II with Machining Laboratory (C- and above)			Robotics and Mechatronics			
220	ROBT 407	Statistical Methods and Machine Learning	3	6	MATH 273 Linear Algebra with Applications (C- and above)			Computer Science, Robotics and Mechatronics	SST		
221	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (C- and above)			Computer Science, Robotics and Mechatronics	SST		
222	ROBT 491	Graduation Project	3	6				4 year UG SST Robotics and Mechatronics			
223	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (C- and above)			Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
SHSS											
Area Studies											
224	EAS 502	Disciplinary Methodology	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
225	EAS 504	Thesis II	12.5	25	EAS 500 Introduction to Eurasia (C- and above) AND EAS 501 General Methodology (C- and above) AND EAS 502 Disciplinary Methodology (C- and above) AND EAS 503 Thesis I (C- and above)			1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
226	EAS 511	Independent Study in Eurasian Studies	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Communication and Composition											
227	COMM 202	Introduction to Public Speaking	3	6	SHSS 150 Rhetoric and Composition (C- and above)			SEng, SHSS, SMG, SST			
228	SHSS 150	Rhetoric and Composition	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST			
229	SHSS 240	Writing for Digital Media	3	6	SHSS 150 Rhetoric and Composition (C- and above)			SHSS	SEng, SMG, SST		
230	SHSS 300	SHSS Internship	3	6				Through Add Course form only			

231	SHSS 301	SHSS Internship Second Experience	3	6				Through Add Course form only			
232	SHSS 390	Writing Fellows I - Composition and Collaboration in Theory and Practice	3	6	SHSS 150 Rhetoric and Composition (C- and above)			Through Add Course form only			
233	SHSS 391	Writing Fellows II - Practicum in Composition & Collaboration	3	6	SHSS 390 Writing Fellows I - Composition and Collaboration in Theory and Practice (C- and above)			Through Add Course form only			
Communication and Composition, Languages, Literature and Linguistics											
234	SHSS 260/WLL 235	Creative Writing: Introduction to Fiction Writing I	3	6	SHSS 150 Rhetoric and Composition (C- and above)			SHSS	SEng, SMG, SST		
Economics											
235	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
236	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
237	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (C and above) AND (MATH 161 Calculus I (C and above) OR MATH 162 Calculus II (C and above))			Economics	SHSS	SEng, SMG, SST	
238	ECON 202	Intermediate Macroeconomics	3	6	ECON 102 Introduction to Macroeconomics (C and above) AND (MATH 161 Calculus I (C and above) OR MATH 162 Calculus II (C and above))			Economics	SHSS	SEng, SMG, SST	
239	ECON 211	Economic Statistics	3	6	ECON 101 Introduction to Microeconomics (C and above) OR ECON 102 Introduction to Macroeconomics (C and above)			Economics	SHSS	SEng, SMG, SST	
240	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (C- and above) AND ECON 102 Introduction to Macroeconomics (C- and above)			Through Add Form Only			
241	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (C- and above)			Economics	SHSS	SEng, SMG, SST	
242	ECON 332	Urban Economics	3	6	ECON 201 Intermediate Microeconomics (C- and above)			Economics	SHSS	SEng, SMG, SST	

243	ECON 345	The Economics of Family	3	6	ECON 201 Intermediate Microeconomics (C- and above)			Economics	SHSS	SEng, SMG, SST	
244	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (C- and above)			Economics	SHSS	SEng, SMG, SST	
245	ECON 415	Industrial Organization	3	6	ECON 301 Econometrics I (C- and above)			Economics	SHSS	SEng, SMG, SST	
246	ECON 428	Wages and the Labor Market	3	6	ECON 201 Intermediate Microeconomics (C- and above) AND ECON 301 Econometrics I (C- and above)			Economics	SHSS	SEng, SMG, SST	
247	ECON 515	Industrial Organization	4	8	ECON 531 Econometrics (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
248	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics I (C- and above) AND ECON 512 Mathematical Economics (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
249	ECON 522	Macroeconomics II	4	8	ECON 502 Macroeconomics I (C- and above) AND ECON 512 Mathematical Economics (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
250	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics I (C- and above) AND ECON 502 Macroeconomics I (C- and above) AND ECON 511 Statistics (C- and above)	ECON 531 Econometrics (D and above)		1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
251	ECON 531	Econometrics	4	8	ECON 511 Statistics (C- and above) AND ECON 512 Mathematical Economics (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
252	ECON 590	Thesis II	8	16	ECON 589 Thesis I (P and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
History, Philosophy and Religious Studies											
253	HST 100	History of Kazakhstan	3	6				4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SEng, SHSS, SMG, SST	
254	HST 151	US History I (to 1877)	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
255	HST 214	An Introduction to Comparative History: The Eurasian Steppes and Great Plains of North America	3	6				SHSS	SEng, SMG, SST		
256	HST 233	The Russian Empire from Catherine the Great to the Bolshevik Revolution	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		

257	HST 235	Peter the Great (1682-1725): First Emperor of Russia and "Father of the Fatherland"	3	6				SHSS	SEng, SMG, SST		
258	HST 236	Eurasian revolutions, 1905-1949	3	6				SHSS	SEng, SMG, SST		
259	HST 239	Modernizing the Periphery: Crime, Community and Culture in Central Europe, 1790 - 1990	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
260	HST 331	The Eurasian Enlightenment	3	6	HST 100 History of Kazakhstan (B and above) OR Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
261	HST 411	Exploring Eurasian Environmental History	3	6	HST 100 History of Kazakhstan (D and above)			SHSS	SEng, SMG, SST		
262	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (C- and above)			4 year UG SHSS			
263	HST 511	Exploring Eurasian Environmental History	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSE, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
264	PHIL 124	Knowledge and Reality	3	6				SEng, SHSS, SMG, SST			
265	PHIL 141	Critical Thinking	3	6				SEng, SHSS, SMG, SST			
266	PHIL 215	Bioethics	3	6				SEng, SHSS, SMG, SST			
267	PHIL 223	Philosophy of Science	3	6				SEng, SHSS, SMG, SST			
268	PHIL 320	Truth, Knowledge and Belief	3	6				SEng, SHSS, SMG, SST			
269	PHIL 361	Philosophy of Language	3	6				SEng, SHSS, SMG, SST			
270	REL 212	Buddhist Religious Traditions	3	6				SEng, SHSS, SMG, SST			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
271	HST 329/REL 329	Women in Islamic History	3	6				SHSS	SEng, SMG, SST		
272	PHIL 266/HST 266	Sunzi's Art of War and Unorthodox Military Strategy in Ancient China	3	6				SEng, SHSS, SMG, SST			
273	PHIL 267/REL 267	Chinese Roots of Martial Arts	3	6				SEng, SHSS, SMG, SST			

274	REL 273/HST 273	History of Sufism in the Middle East and Central Asia	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
History, Philosophy and Religious Studies, Sociology and Anthropology											
275	HST 223/ANT 287	Cannibalism and Civilization	3	6				SHSS	SEng, SMG, SST		
276	HST 381/SOC 319	AIDS and Society	3	6	Subject "HST" BETWEEN 100 and 199 OR HST 100 History of Kazakhstan (B- and above)			3 year UG SST, 4 year UG SST, SHSS	SEng, SMG, SST		
Kazakh Language and Turkic Studies											
277	KAZ 201	Academic Kazakh I	3	6	KLL "Basic I" OR KLL "Basic II" OR KLL "Intermediate I" OR KLL "Intermediate II"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
278	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (C- and above) OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
279	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (C- and above)				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
280	KAZ 212	Academic Writing in Kazakh	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
281	KAZ 226	Kazakh for Medical School	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	

282	KAZ 313	Kazakh for Business	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
283	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (C- and above) OR KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
284	KAZ 351	Kazakh Short Stories	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
285	KAZ 354	Kazakh Drama	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
286	KAZ 356	Kazakh Music History	3	6	KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
287	KAZ 357	Literature of Alash	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
288	KAZ 358	Technique of Translation	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
289	KAZ 362	Creative Writing in Kazakh Language	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	

290	KAZ 363	Language and Globalization	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
291	KAZ 364	Kazakh for Civil Service	3	6	KLL "Advanced" OR KLL "Upper-Intermediate" OR KAZ 314 Speech Culture in Business (C- and above)				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
292	KAZ 366	Kazakh Language for Engineers	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
293	KAZ 368	Onomastics: History and Function of Names	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
294	KAZ 371	Contemporary Kazakh Literature	3	6	KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
295	KAZ 372	Language and ethnicity	3	6	KLL "Advanced" OR KAZ 211 Academic Speaking in Kazakh (C- and above) OR KAZ 212 Academic Writing in Kazakh (C- and above)				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
296	KAZ 373	Kazakh Terminology	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (C- and above) OR KAZ 212 Academic Writing in Kazakh (C- and above)				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	

297	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202A Kazakh Literature 2/K(C) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (C- and above) OR KAZ 212 Academic Writing in Kazakh (C- and above) OR KLL "Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
298	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (C- and above) OR KAZ 212 Academic Writing in Kazakh (C- and above)				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
299	TUR 230	Literatures of Central Asia	3	6				SHSS	SEng, SMG, SST		
Kazakh Language and Turkic Studies, Languages, Literature and Linguistics											
300	LING 280/TUR 280	Introduction to Turkic Historical and Comparative Linguistics	3	6				SHSS	SEng, SMG, SST		
Languages, Literature and Linguistics											
301	CHN 101	Beginning Mandarin I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
302	CHN 201	Intermediate Mandarin I	4	8	CHN 102 Beginning Mandarin II (B- and above)			SEng, SHSS, SMG, SST			
303	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (C- and above)			SEng, SHSS, SMG, SST			
304	FRE 314	Advanced French Grammar and Composition	3	6	FRE 202 Intermediate French II (C- and above)			SEng, SHSS, SMG, SST			
305	GER 101	Beginning German	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
306	GER 102	Beginning German II	4	8	GER 101 Beginning German (C- and above)			SEng, SHSS, SMG, SST			
307	KOR 102	Beginning Korean II	4	8	KOR 101 Beginning Korean I (C- and above)			SEng, SHSS, SMG, SST			
308	LING 130	Introduction to Language and Communication	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
309	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
310	LING 270	Languages of Eurasia	3	6				SHSS	SEng, SMG, SST		
311	LING 277	Language Diversity and Language Universals	3	6				SHSS	SEng, SMG, SST		
312	LING 278	Sounds of the World's Languages	3	6				SHSS	SEng, SMG, SST		
313	LING 370	Methods of Teaching Foreign Languages	3	6				SHSS	SEng, SMG, SST		

314	LING 372	Discourse Analysis	3	6	Subject "LLL" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR ANT 175/WLL 171 Introduction to Linguistic Anthropology (C- and above) OR Subject "LING" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
315	PER 102	Beginning Persian II	4	8	PER 101 Beginning Persian I (C- and above)			SEng, SHSS, SMG, SST			
316	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (C- and above)			SEng, SHSS, SMG, SST			
317	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (C- and above)			SEng, SHSS, SMG, SST			
318	SPA 320	The Hispanic Short Story	3	6	Subject "WLL" BETWEEN 100 and 199 AND SPA 202 Intermediate Spanish II (C- and above)			SEng, SHSS, SMG, SST			
319	WLL 110	Introduction to Literary Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
320	WLL 121	Introduction to Cultural Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
321	WLL 211	World Literature II: from the 18th to the 20th century	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
322	WLL 212	Introduction to Poetry	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
323	WLL 241	Survey of Folk Tales	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
324	WLL 245	Terrible Perfection: Heroines of Classical Russian Literature	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
325	WLL 246	Survey of Contemporary Russian Literature and Culture	3	6	Subject "WLL" BETWEEN 100 and 199 OR SHSS 150 Rhetoric and Composition (C- and above)			2 year UG SHSS	SHSS	SEng, SMG, SST	
326	WLL 442	Contemporary Russian and Russophone Literature	3	6	Subject "WLL" BETWEEN 100 and 199			World Languages, Literature and Culture	4 year UG SHSS	SEng, SMG, SST	
327	WLL 499	Languages, Linguistics, and Literatures Capstone II	3	6	WLL 498 Languages, Linguistics, and Literatures Capstone I (C- and above)			4 year UG SHSS World Language and Literature			
328	WLL 542	Contemporary Russian and Russophone Literature	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSE, GSP, SEng, SHSS, SMG, SST, SoM		

Languages, Literature and Linguistics, Languages, Literature and Linguistics

329	WLL 254/SPA 254	Superstition, Magical Realism, and Horror in Hispanic Culture	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499		World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
Political Science and International Relations										
330	PLS 101	Introduction to Political Science	3	6				SEng, SMG, SST	SHSS	
331	PLS 140	Introduction to Comparative Politics	3	6			1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
332	PLS 150	Introduction to International Relations	3	6			1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
333	PLS 210	Political Science Research Methods	3	6			Political Science and International Relations	SHSS	SEng, SMG, SST	
334	PLS 211	Quantitative Methods	3	6			Political Science and International Relations	SHSS	SEng, SMG, SST	
335	PLS 341	Politics of Development	3	6	PLS 140 Introduction to Comparative Politics (C- and above) OR PLS 150 Introduction to International Relations (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
336	PLS 351	International Political Economy	3	6	PLS 150 Introduction to International Relations (C- and above) AND PLS 210 Political Science Research Methods (C- and above) AND PLS 211 Quantitative Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
337	PLS 354	Introduction to International Law	3	6	PLS 150 Introduction to International Relations (C- and above) AND PLS 210 Political Science Research Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
338	PLS 355	European Union: Institutions and Policies	3	6	PLS 150 Introduction to International Relations (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
339	PLS 356	International Politics of the Korean Peninsula	3	6			Political Science and International Relations	SHSS	SEng, SMG, SST	
340	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (C- and above) AND PLS 211 Quantitative Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	

341	PLS 365	Civil-Military Relations	3	6	PLS 211 Quantitative Methods (C- and above) AND PLS 210 Political Science Research Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
342	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 140 Introduction to Comparative Politics (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
343	PLS 392	Politics of China	3	6	PLS 140 Introduction to Comparative Politics (C- and above) OR PLS 150 Introduction to International Relations (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
344	PLS 395	Independent Study	3	6	PLS 210 Political Science Research Methods (C- and above) AND PLS 211 Quantitative Methods (C- and above)		Through Add Course form only			
345	PLS 441	Advanced Topics in Comparative Politics	3	6	PLS 140 Introduction to Comparative Politics (C- and above) AND PLS 210 Political Science Research Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
346	PLS 445	Political Violence	3	6	(PLS 140 Introduction to Comparative Politics (C- and above) OR PLS 150 Introduction to International Relations (C- and above)) AND PLS 210 Political Science Research Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
347	PLS 447	Comparative Political Parties	3	6	PLS 140 Introduction to Comparative Politics (C- and above) AND PLS 210 Political Science Research Methods (C- and above)		Political Science and International Relations	SHSS	SEng, SMG, SST	
348	PLS 457	International Security and Conflict	3	6	PLS 150 Introduction to International Relations (C- and above) AND PLS 210 Political Science Research Methods (C- and above) AND PLS 211 Quantitative Methods (C- and above)					
349	PLS 495	Research Practicum in PSIR	1	2	PLS 210 Political Science Research Methods (C- and above) AND PLS 211 Quantitative Methods (C- and above)		Through Add Course form only			

350	PLS 510	Advanced Research II	4	8	PLS 511 Advanced Research I (D and above)			1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
351	PLS 522	Just War Theory	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
352	PLS 541	Advanced Topics in Comparative Politics	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
353	PLS 545	Political Violence	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
354	PLS 547	Comparative Political Parties	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
355	PLS 551	Advanced Topics in International Relations	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
356	PLS 557	International Security and Conflict	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
357	PLS 598	MA Thesis for Political Science and International Relations	10	20				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		

Sociology and Anthropology

358	ANT 101	Introduction to Sociocultural Anthropology	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
359	ANT 140	World Prehistory	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
360	ANT 160	Introduction to Biological Anthropology	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	Biological Sciences, SHSS	SEng, SMG, SST	
361	ANT 181	Introduction to Medical Anthropology	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	Biological Sciences, SHSS	SEng, SMG, SST	
362	ANT 232	Life, Death and Economy: Archaeology of Central Asia	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	SEng, SMG, SST	
363	ANT 286	Nomads: Around the world and through time	3	6			1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	SEng, SMG, SST	
364	ANT 306	Anthropology of Performance	3	6			Anthropology, Sociology	SHSS	SEng, SMG, SST	
365	ANT 314	Politics of Identity in Eurasia	3	6	Subject "HST" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499 OR Subject "PLS" BETWEEN 100 and 499		Anthropology, Political Science and International Relations, Sociology	SHSS	SEng, SMG, SST	
366	ANT 333	Anthropology of Space	3	6			3 year UG SHSS, 4 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
367	ANT 400	Research Assistance in Anthropology	1	2	SOC 201 Social Science Research Methods (C- and above) OR SOC 203 Quantitative Methods in Sociology (C- and above) OR SOC 214/ANT 214 Qualitative Methods (C- and above)		Through Add Course form only			

368	ANT 475	Digital Ethnographies	3	6	ANT 101 Introduction to Sociocultural Anthropology (C- and above) OR PLS 210 Political Science Research Methods (C- and above) OR SOC 201 Social Science Research Methods (C- and above) OR SOC 214/ANT 214 Qualitative Methods (C- and above)		Anthropology, Sociology	SHSS	SEng, SMG, SST
369	SOC 101	Introduction to Sociology	3	6			Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS, 3 year UG SST Biological Sciences	SEng, SHSS, SMG, SST
370	SOC 201	Social Science Research Methods	3	6			Anthropology, Sociology	SHSS	SEng, SMG, SST
371	SOC 203	Quantitative Methods in Sociology	3	6	SOC 201 Social Science Research Methods (C- and above) OR PLS 210 Political Science Research Methods (C- and above)		Anthropology, Sociology	SHSS	SEng, SMG, SST
372	SOC 215	Sociology of Race and Ethnicity	3	6			Anthropology, Sociology	SHSS	SEng, SMG, SST
373	SOC 221	International Migration	3	6			Anthropology, Sociology	SHSS	SEng, SMG, SST
374	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (C- and above) OR SOC 115 Global Social Problems (C- and above)		Anthropology, Sociology	SHSS	SEng, SMG, SST
375	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (C- and above)				
376	SOC 400	Research Assistance in Sociology	1	2	SOC 201 Social Science Research Methods (C- and above) OR SOC 203 Quantitative Methods in Sociology (C- and above) OR SOC 214/ANT 214 Qualitative Methods (C- and above)		Through add form only		
377	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (C- and above)		4 year UG SHSS Sociology		
378	SOC 521	Informal Practices and Social Order in Eurasia	4	8			1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSE, GSB, GSPP, SEng, SHSS, SMG, SST, SoM	

Sociology and Anthropology, Sociology and Anthropology

379	ANT 222/SOC 222	Approaches to Global Development	3	6			ANT 222/SOC 222 Approaches to Global Development (C- and above)	Anthropology, Sociology	SHSS	SEng, SMG, SST	
380	SOC 214/ANT 214	Qualitative Methods	3	6		SOC 201 Social Science Research Methods (C- and above) OR PLS 210 Political Science Research Methods (C- and above)		Anthropology, Sociology	SHSS	SEng, SMG, SST	
381	SOC 281/ANT 281	Health, Illness and Society	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
CPS											
GSPP											
382	ZEST 061	Basic Economics and Statistics	0	0							
Mathematics											
383	MATH 500Z	Linear Algebra with Applications	0	0							
NUFYP											
384	FBIO 011	Introduction to Biology	1	2							
385	FBUS 011	Introduction to Business	1	2							
386	FCHM 011	Introduction to Chemistry	1	2							
387	FEAP 020	Foundation English for Academic Purposes	1	2							
388	FGEO 011	Introduction to Geography	1	2							
389	FHUM 011	Introduction to Humanities and Social Science	1	2							
390	FMAT 020	Foundation Statistics	1	2							
391	FMAT 030	Mathematics for Life Sciences (Biology and Chemistry)	1	2							
392	FMAT 040	Mathematics for Physical Sciences	1	2							
393	FPHY 011	Introduction to Physics	1	2							
NUZYP											
394	ZCOM 041	Academic Communications for Graduate Studies II	0	0							
395	ZRDG 031	Academic Reading for Graduate Studies II	0	0							
396	ZWRT 021	Academic Writing for Graduate Studies II	0	0							
Sociology and Anthropology											

397	SOC 201Z	Social Science Research Methods	0	0							
GSB											
GSB											
398	GSBF 512	Principles of Finance	2	4							
399	GSBF 513	Financial Econometrics	2	4							
400	GSBF 514	Corporate Finance	2	4							
401	GSBF 515	Investments	2	4							
402	GSBF 517	Financial Economics	2	4							
403	GSBF 520	Empirical Asset Pricing	2	4							
404	GSBF 541	Global Finance Experience Residency (I)	2	4							
405	MBA 08	Managerial Economics	2	4							
406	MBA 10	Foundations of Strategy	2	4							
407	MBA 11	Managerial Accounting	2	4							
408	MBA 12	Operations Management	2	4							
409	MBA 13	Macroeconomics	2	4							
410	MBA 15	Corporate Finance	2	4							
411	MBA 16	Entrepreneurship	2	4							
412	MBA 17	Negotiations	2	4							
413	MBAE 13	Raising Capital	2	4							
414	MSF 03	Advanced Econometrics	2	4							
GSPP											
GSPP											
415	DPP 602	Macroeconomics in Public Sector	4	8					Public Policy		
416	DPP 613	Research Design (qualitative and quantitative)	4	8					Public Policy		
417	DPP 615	Governance and Public Policy	4	8					Public Policy		
418	DPP 631	Politics of Public Policy	4	8					Public Policy		
419	DPP 689	PhD Qualifying Examination	6	12					Public Policy		
420	DPP 699	Thesis Design and Written Proposal	6	12					Public Policy		
421	MPA 608	Strategic Management and Leadership	4	8					Public Administration		
422	MPA 610	National Identity and Public Policy	4	8					Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM

423	MPA 611	Benefit Cost Analysis	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	
424	MPA 699	Master's Project with Overseas Component	0	0				Public Administration			
425	MPP 602	Macroeconomics and Public Policy	4	8				Public Policy			
426	MPP 613	Public Policy Research Design and Analysis	4	8				Public Policy			
427	MPP 627	Environmental Economics and Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	
428	MPP 638	Terrorism and Counterterrorism Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	
429	MPP 641	Public Management and Leadership	4	8				Public Policy			
430	MPP 643	Marketing Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	
431	MPP 663	Applied Public Economics and Finance	4	8	MPP 601 Microeconomics and Public Policy (B- and above)			GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM		
432	MPP 671	Game Theory and Public Policy	4	8				GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM		
433	MPP 681	Natural Resource Management and Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	
434	MPP 682	Sustainable Development and Environmental Governance	4	8	MPP 601 Microeconomics and Public Policy (D and above)			GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM		
435	MPP 685	Urban Planning and Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM	

436	MPP 699	Policy Analysis Exercise with Singapore Component	4	8	MPP 601 Microeconomics and Public Policy (D and above) AND MPP 602 Macroeconomics and Public Policy (D and above) AND MPP 611 Statistical Techniques for Public Policy (D and above) AND MPP 612 Public Policy Research and Evaluation (D and above) AND MPP 613 Public Policy Research Design and Analysis (D and above) AND MPP 621 Introduction to Public Policy and Analysis (D and above) AND MPP 631 Politics and Public Policy (D and above)			Public Policy			
GSE											
GSE											
437	EDHE 665	Comparative Higher Education	3	6				Retake Course			
438	EDHE 692	Thesis Seminar III	4	9				2 year GSE Educ.Leadership (2-year program)			
439	EDIE 692	Thesis Seminar III	4	9				2 year GSE Educ.Leadership (2-year program)			
440	EDML 611	Plurilingual Individual	3	6				1 year GSE MA in Multil.Educ. (2-year program)			
441	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Educ. (2-year program)			
442	EDML 614	Multilingual curriculum development and assessment	3	6				2 year GSE MA in Multil.Educ. (2-year program)			
443	EDML 620	Language and Literacy Development	3	6				Multilingual Education			
444	EDML 691	Thesis Research II	3	6				2 year GSE MA in Multil.Educ. (2-year program)			
445	EDSE 620	Perspectives on Inclusive Education	3	6				2 year GSE MA in Multil.Educ. (2-year program)			
446	EDSE 692	Thesis Seminar III	4	9				2 year GSE Educ.Leadership (2-year program)			

447	EDUC 506	Academic English II	1.5	3				1 year GSE Educ.Leadership (2-year program)			
448	EDUC 508	Academic English IV	1.5	3				2 year GSE Educ.Leadership (2-year program)			
449	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Educ. (2-year program)			
450	EDUC 513	English for Thesis Writing II	3	6				2 year GSE MA in Multil.Educ. (2-year program)			
451	EDUC 571	Basic Kazakh	3	6				1 year GSE MA in Multil.Educ. (2-year program), 1 year GSE PhD Education			
452	EDUC 572	Kazakh for Professional Purposes	3	6				GSE			
453	EDUC 573	Academic Writing in Kazakh	3	6				Education, Multilingual Education			
454	EDUC 600	Research Methods II	3	6				1 year GSE Educ.Leadership (2-year program), 1 year GSE MA in Multil.Educ. (2-year program)			
455	EDUC 670	Internship Project	6	12				1 year GSE Educ.Leadership (2-year program)			
456	EDUC 671	Work-based project	6	12				1 year GSE Educ.Leadership (2-year program)			
457	EDUC 675	Learning to Work	4.5	9				2 year GSE Educ.Leadership (2-year program)			
458	EDUC 704	Advanced Methods of Education Research	3	6				1 year GSE PhD Education			
459	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6				1 year GSE PhD Education			
460	EDUC 711	Globalisation and Education	3	6				1 year GSE PhD Education			
461	EDUC 730	Preparation for Proposal Defence I	6	12				1 year GSE PhD Education			
462	EDUC 731	Proposal Defence	3	6				2 Year PhD in Education only. Registration by School Office			

463	EDUC 740	Doctoral Seminar	3	6				2 Yr PhD in Education only. Registration by School Office			
464	EDUC 750	Dissertation Research	9	18				Yr 2, 3 PhD in Education only. Registration by School Office			
Other											
Other											
465	STUMOB 001	Student Mobility Course	0	0							
SoM											
Applied Nursing											
466	NUR 402	Principles of Healthcare Administration	4	8							
467	NUR 405	Issues and Trends in Nursing	4	8							
468	NUR 406.2	Medical-Surgical Nursing: Complex Management	4	8							
469	NUR 407	Capstone (Clinical +EBP Quality Improvement Research)	4	8							
Biomedical Sciences											
470	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6							
471	MMMM 508	Molecular Immunology	2	4							
472	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6							
473	MMMM 510	Natural Medicine	3	6							
474	MMMM 511	Research Methods in Molecular Biomedicine	3	6							
475	MMMM 512	Molecular Basis of Chronic Inflammation	1	2							
476	MMMM 690	Master Research Project	15	30							
Public Health											
477	PUBH 512	Biostatistical Modeling and Sampling	3	6							
478	PUBH 522	Advanced Analytical Epidemiology	3	6							

479	PUBH 551	Health Services Management, Health Economic and Health Policy	3	6							
480	PUBH 552	Principles of Health Economics and Policy	3	6	PUBH 551 Health Services Management, Health Economic and Health Policy (C and above)						
481	PUBH 561	Graduate Research Seminar I	3	6							
482	PUBH 631	Social and Behavioral Sciences in Public Health	3	6							
483	PUBH 682	Master's Project Implementation	12	24							
School of Medicine											
484	MHPW 200	Health, Physical Fitness, and Well Being	3	6							
SMG											
Mining Engineering											
485	MINE 513	Rock Excavation Methods	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
486	MINE 514	Advanced Surface Mine Design	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
487	MINE 515	Advanced Underground Mine Design	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
488	MINE 518	Advanced Rock Mechanics	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
489	MINE 527	Master's Thesis	15	30	MINE 526 Thesis Literature Review (C- and above)			2 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Petroleum Engineering											
490	PETE 500	Research Methods	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
491	PETE 506	Advanced Reservoir Simulation	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
492	PETE 507	Advanced Reservoir Engineering	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
493	PETE 508	Advanced Production Engineering	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		

494	PETE 509	Advanced Enhanced Oil Recovery	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
School of Mining and Geosciences											
495	GEOL 101	Principles of Geology	3	6				1 year UG SMG	SEng, SST	SHSS	
496	GEOL 102	Fundamentals of Geology	3	6				1 year UG SMG	SEng, SST	SHSS	
497	MSC 616	Research Methods	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
498	SMG 100	Introduction to Natural Resources Extraction	3	6				1 year UG SMG	SEng, SST	SHSS	